## CLAIMS

1. An optical functional layer comprising a fluoroaliphatic group-containing copolymer, the fluoroaliphatic group-containing copolymer having a polymerization unit derived from a fluoroaliphatic group-containing monomer in a content of 10 weight% or more, and being localized on a surface of the optical functional layer.

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- 2. An optical functional film produced by coating an upper layer on the functional layer according to claim 1 in which the fluoroaliphatic group-containing copolymer is localized on the surface.
- 3. The optical functional film according to claim 2, wherein the fluoroaliphatic group-containing copolymer is a copolymer having on a side chain thereof at least one of a perfluoroalkyl group including 4 or more carbon atoms and fluoroalkyl group having a CF<sub>2</sub>H- group including 4 or more carbon atoms.
  - 4. An optical functional film comprising a transparent support having at least two adjacent functional layers on the support, wherein out of multiple adjacent functional layers, a fluoroaliphatic group-

containing copolymer having a polymerization unit derived from fluoroaliphatic group-containing monomer in a content of 10 weight% or more is contained in a furthermost layer from the support in a larger amount than in a layer closer to the support.

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- 5. The optical functional film according to claim 4, wherein the multiple adjacent functional layers contain a cured composition of at least one of an ionizing radiation-curable resin and a thermosetting resin.
- 6. An antireflection film, which is the optical functional film according to claim 4,

wherein out of the at least two functional layers,

15 the furthermost layer from the support is a low
refractive index layer containing a cured composition of
a crosslinking fluorine-containing polymer different from
the fluoroaliphatic group-containing copolymer.

- 7. The antireflection film according to claim 6, wherein the functional layer closer to the support is any one of a hard coat layer, an antiglare layer, an light-diffusing layer, and a high refractive index layer.
- The antireflection film according to claim 6,

wherein the low refractive index layer contains at least one kind of a silica fine particle having an average particle size corresponding to 30 to 150% of a thickness of the low refractive index layer.

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- 9. The antireflection film according to claim 6, wherein at least one of the silica fine particle contained in the low refractive index layer is a hollow silica fine particle having a refractive index of 1.17 to 1.40.
- 10. The antireflection film according to claim 6, wherein the fluorine-containing polymer is a copolymer with a main chain comprising only carbon atoms, and the copolymer containing on a side chain thereof a polymerization unit derived from a fluorine-containing vinyl monomer and a polymerization unit having a acryloyl group.
- 20 11. The antireflection film according to claim 10, wherein the copolymer with a main chain comprising only carbon atoms is represented by the following formula 1:

$$\begin{array}{c|c} -(CF_2-CF_{\frac{1}{x}})_{\frac{1}{x}} & -(CH_2-CH_{\frac{1}{y}}-CH_{\frac{1}{y}})_{\frac{1}{y}} & -(A)_{\frac{1}{z}} \\ CF_3 & 0 + (L)_{\frac{1}{m}} & CC = CH_2 \\ & \times \end{array}$$

wherein L represents a linking group having from 1 to 10 carbon atoms, m represents 0 or 1, X represents a hydrogen atom or a methyl group, A represents an arbitrary vinyl monomer polymerization unit and may comprise a single component or multiple components, and x, y and z represent mol% of respective constituent components and each represents a value satisfying  $30 \le x \le 60$ ,  $5 \le y \le 70$  and  $0 \le z \le 65$ .

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- 12. The antireflection film according to claim 6, wherein the layer closer to the support is a high refractive index layer and the high refractive index layer is a constituent layer with a refractive index of 1.55 to 2.40, the refractive index layer comprising an inorganic fine particle which contains a titanium dioxide and at least one element selected from a cobalt, an aluminum and a zirconium.
- 20 13. A method for producing the optical functional film according to claim 4, the method comprising:

forming a first functional layer, on a surface of which a fluoroaliphatic group-containing copolymer is

localized, on a transparent support; and

coating and then curing a second functional layer on the first functional layer.

14. The method according to claim 13, wherein a coating solution for forming the first functional layer containing the fluoroaliphatic group-containing copolymer has a surface tension, and the surface tension decreases by 1 mN/m or more by addition of the copolymer.

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15. The method according to claim 13, wherein a solvent of coating solutions for forming the two functional layers is one of a ketone, an aromatic hydrocarbon, and an ester.

- 16. The method according to claim 15, wherein a solvent of a coating solution for forming the second functional layer is a ketone.
- 20 17. The method according to claim 16, wherein a solvent of a coating solution for forming the first functional layer is different from the solvent of the coating solution for forming the second functional layer.
- 25 18. A method for producing an optical functional

film, comprising at least a first functional layer and a second functional layer, which are adjacently formed in this order on a transparent support,

wherein when the first functional layer is formed and then a solvent of a coating solution for forming the second functional layer is coated on the first functional layer, a surface free energy of the first functional layer changes by 1 mN/m or more.

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19. A method for producing an optical functional film, comprising at least a first functional layer and a second functional layer, which are adjacently formed in this order on a transparent support,

wherein a coating composition for forming the first functional layer contains a fluoroaliphatic group-containing copolymer which has a polymerization unit derived from a fluoroaliphatic group-containing monomer in a content of 10 weight% or more, the fluoroaliphatic group-containing copolymer is localized on a surface of the first functional layer when the coating composition for forming the first functional layer is coated, and the fluoroaliphatic group-containing copolymer dissolves out into a coating composition for forming the second functional layer when the second functional layer is coated.

20. A polarizing plate comprising a polarizer and two protective sheets therefor,

wherein one protective sheet is one of the optical functional film according to any one of claims 1 to 5, the antireflection film according to claim 6 to 12, and the optical functional film produced by the production method according to claims 13 to 19.

- 21. An image display device using one of the optical functional film according to any one of claims 1 to 5, the antireflection film according to claim 6 to 12, and the optical functional film produced by the production method according to claims 13 to 18, for an outermost surface of the display.
  - 22. An image display device using the polarizing plate according to claim 20.